STRAVA - DATA ACCESS AND USES

August 31, 2016
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AGENDA

Training

- Accessing the Data

- Data Characteristics

- Potential Uses

Question and Answer

STRAVA VS. TRADITIONAL COUNTS

Strava
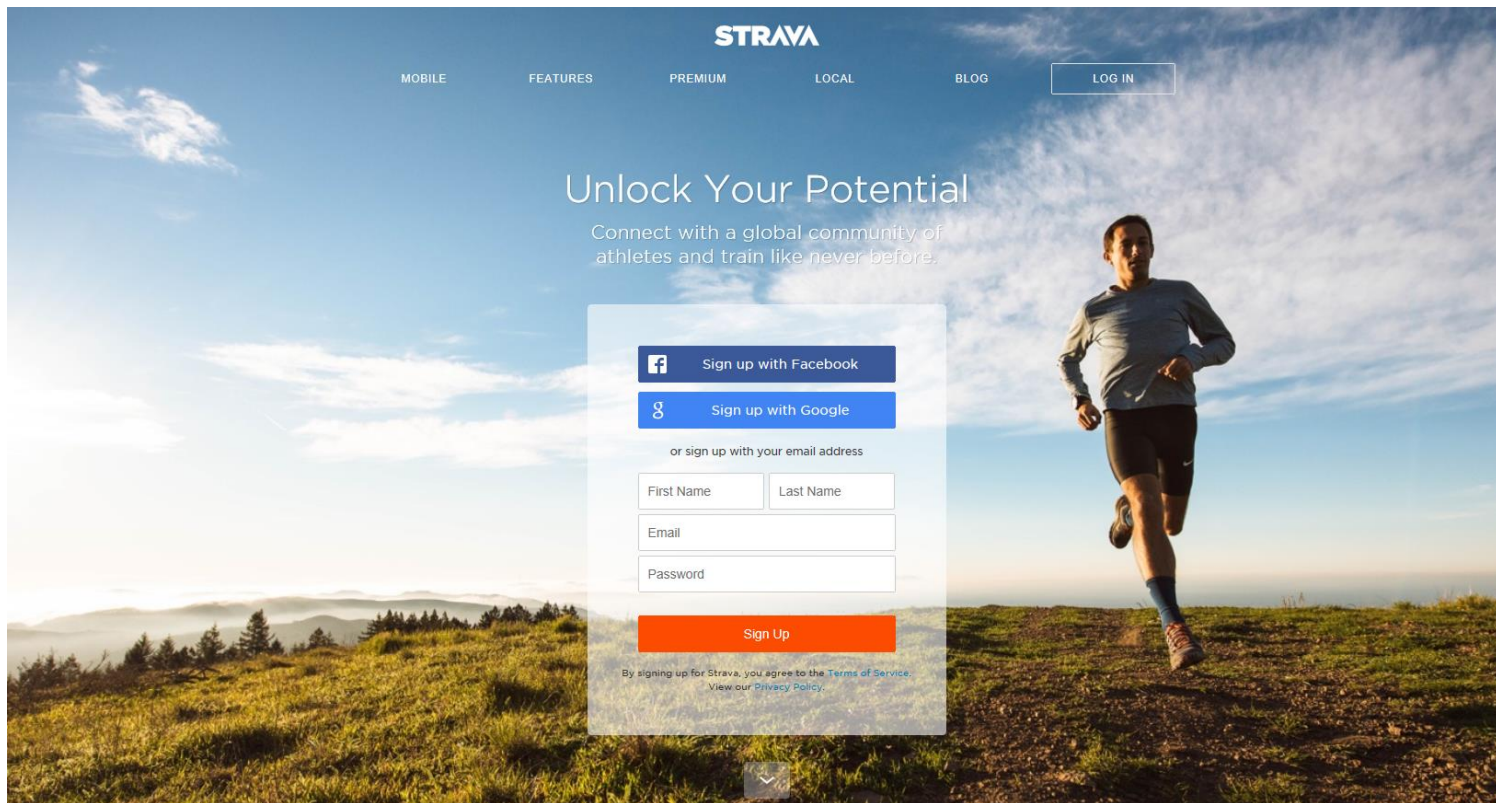- Wide coverage
- Segment of population

In Person Surveys
- Multi-site coverage
- Segment of population

Count Sites
- Narrow coverage
- Entire population

TARGET AUDIENCE

DATA ACCESS

Who
- Governments and their contractors

Where
- FDOT Unified Basemap Repository
  - FDOT Staff – http://webapp01.dot.state.fl.us/unifiedbasemaprepository/
  - Consultants / Contractors and Local Governments - https://www3.dot.state.fl.us/unifiedbasemaprepository/
- Strava Heat Map
  - http://labs.strava.com/heatmap/

EXTERNAL ACCESS TO REPOSITORY

CONTRACTOR ACCESS TO REPOSITORY

Florida Department Of Transportation

Unified Basemap Repository

Business Partners | Employment | Programs | Projects | Related Links | Research/Statistics | Travel Information

Don't have a Subscriber Account? Create a new Subscriber Account now

Password

Log In

Change Password

FDOT Resource Usage Notification

By logging on to a FDOT system, you acknowledge your responsibility to comply with all laws, rules, directives, policies, and procedures related to the use and prohibited. You are hereby on notice that you should have no expectation of privacy as to your use of Department information technology resources as all data

FDOT
Office of
Information Systems

Florida Dep
Report Unified Basem
Report Technical Problems to the Servic
Internet Privac

CREATING A REPOSITORY ACCOUNT

REPOSITORY ERROR MESSAGE

Florida Department Of Transportation

Unified Basemap Repository

Business Partners | Employment | Programs | Projects | Related Links | Research/Statistics | Travel Information

Subscriber Login

Error: Your Subscriber Account is valid, but is not authorized for access to the Unified Basemap Repository web site.

Don't have a Subscriber Account? Create a new Subscriber Account now

User ID

Password

Log In

Change Password

Menu

Home

FDOT Resource Usage Notification

By logging on to a FDOT system, you acknowledge your responsibility to comply with all laws, rules, directives, policies, and procedures related to the use and security of information technology resources. Unauthorized use is strictly prohibited. You are hereby on notice that you should have no expectation of privacy as to your use of Department information technology resources as all data is potentially subject to Florida's public records law.

Send an email to CO-UBRAdmin@dot.state.fl.us to request authorization

LEGAL REQUIREMENTS

Data is proprietary

- Exempt from public records disclosure

- Working on public products

Accessing Data

- Requires accepting user agreement

- Data must come from FDOT

Metadata

Credits

- 'Data Licensed from Strava' (user license term 3.2)

DATA CHARACTERISTICS

Summaries (segment and intersection)

- Yearly
  - Total
  - Weekday / Weekend
- Monthly
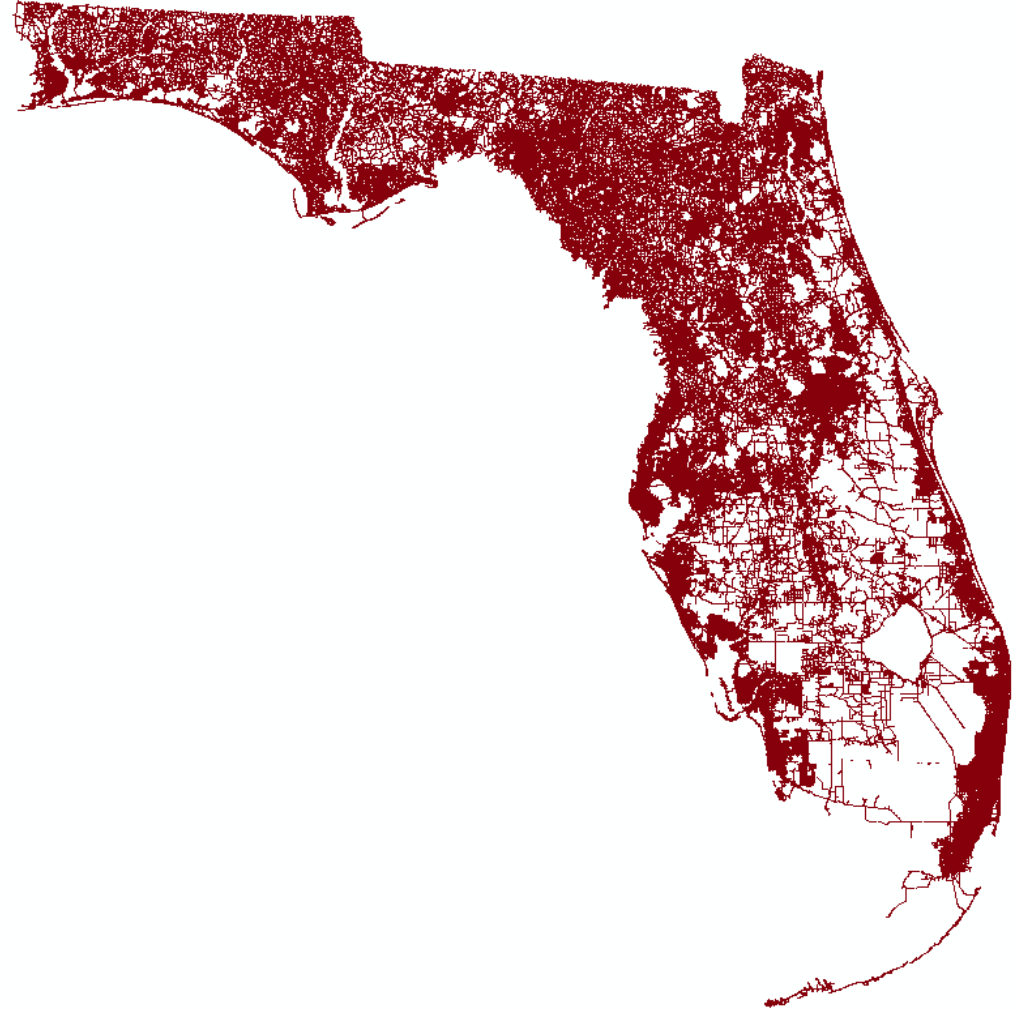 - Weekday / Weekend
- Seasonal
  - Weekday / Weekend

Raw Data (segment, intersection + origin / destination)

- Minute scale for each segment and intersection
- Trip level for origin / destination

STREET NETWORK

HERE NAVSTREETS

- 1.7 million street segments for entire state
- Available through the UBR
- Attributes
  - Linked through LINK_ID (HERE) / ID (Strava) fields
  - Street Name / Alternate Street Names
  - Functional classification (not FDOT / FHWA)
  - Travel Direction
  - Speed Category
  - Urban / Rural
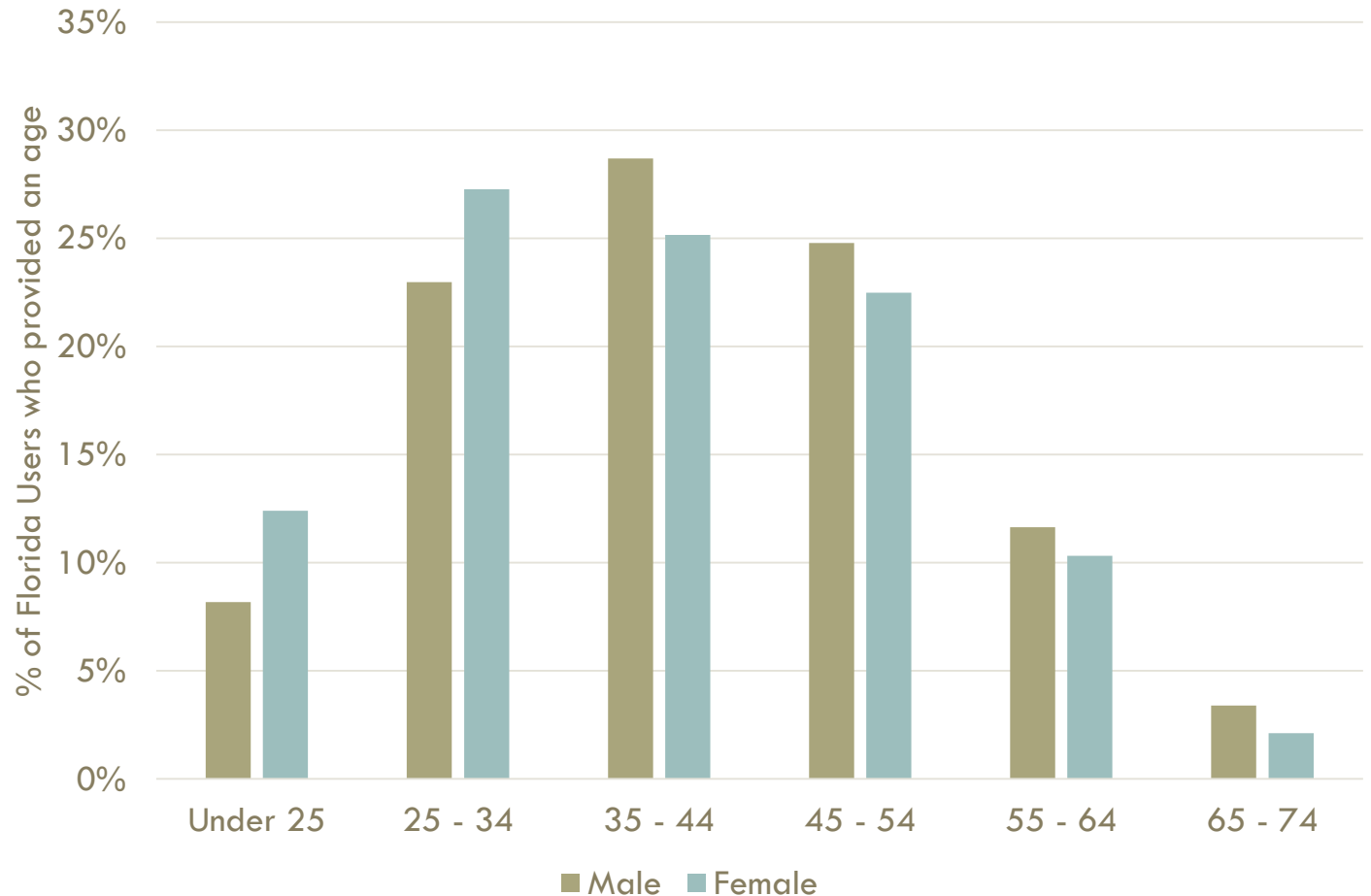 - Divided / Undivided
- Licensed product

RIDE DATA CHARACTERISTICS – 2015

Ride

- 964,463 activities
- 14% Commute trips
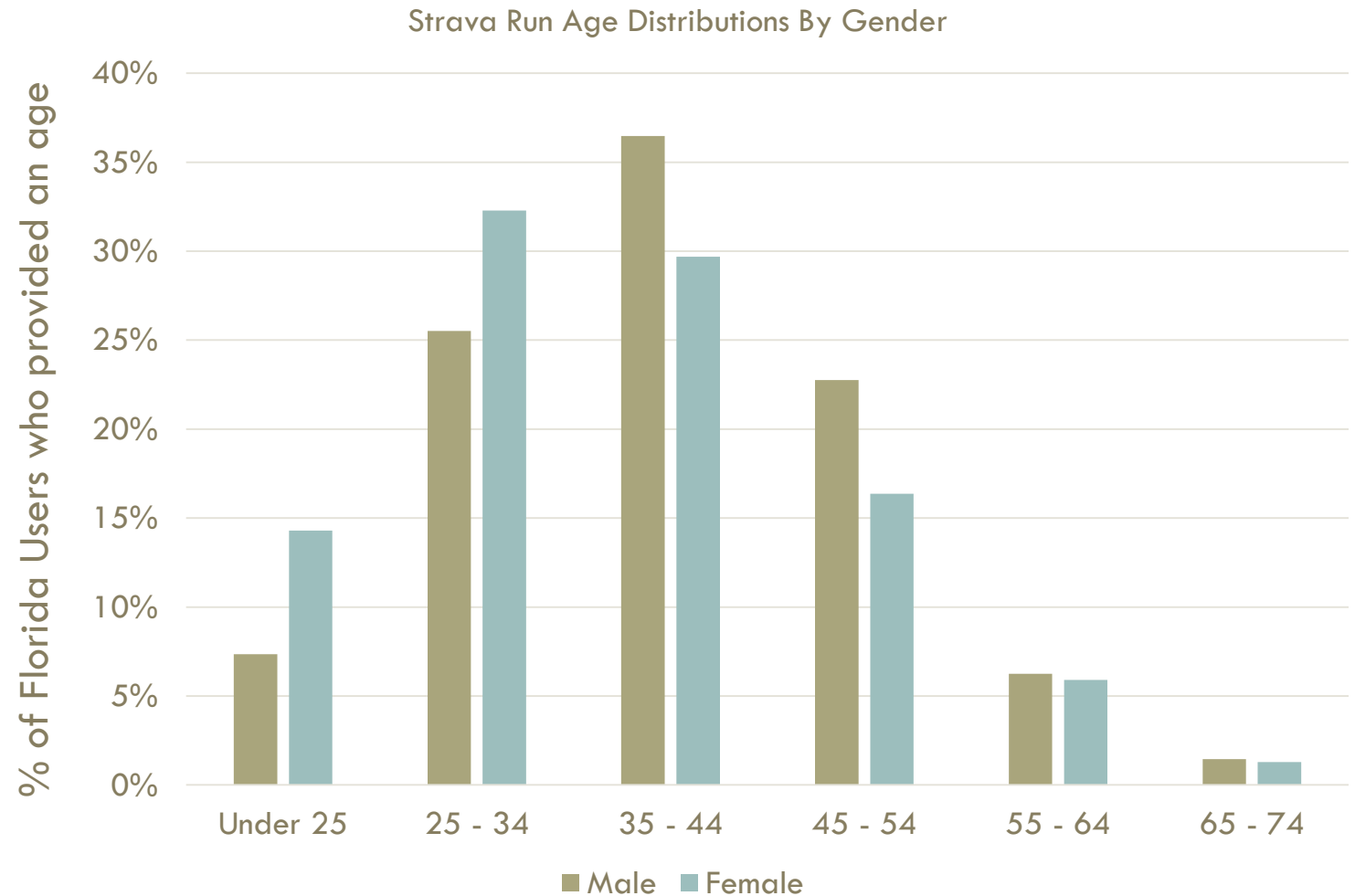- 19 mile median trip
- 1.5 hour median trip

Strava Ride Age Distributions By Gender

% of Florida Users who provided an age

Male   Female

RUN DATA CHARACTERISTICS – 2015

Run

- 507,388 activities
- 3.2 mile median trip
- 37 minute median trip

Strava Run Age Distributions By Gender

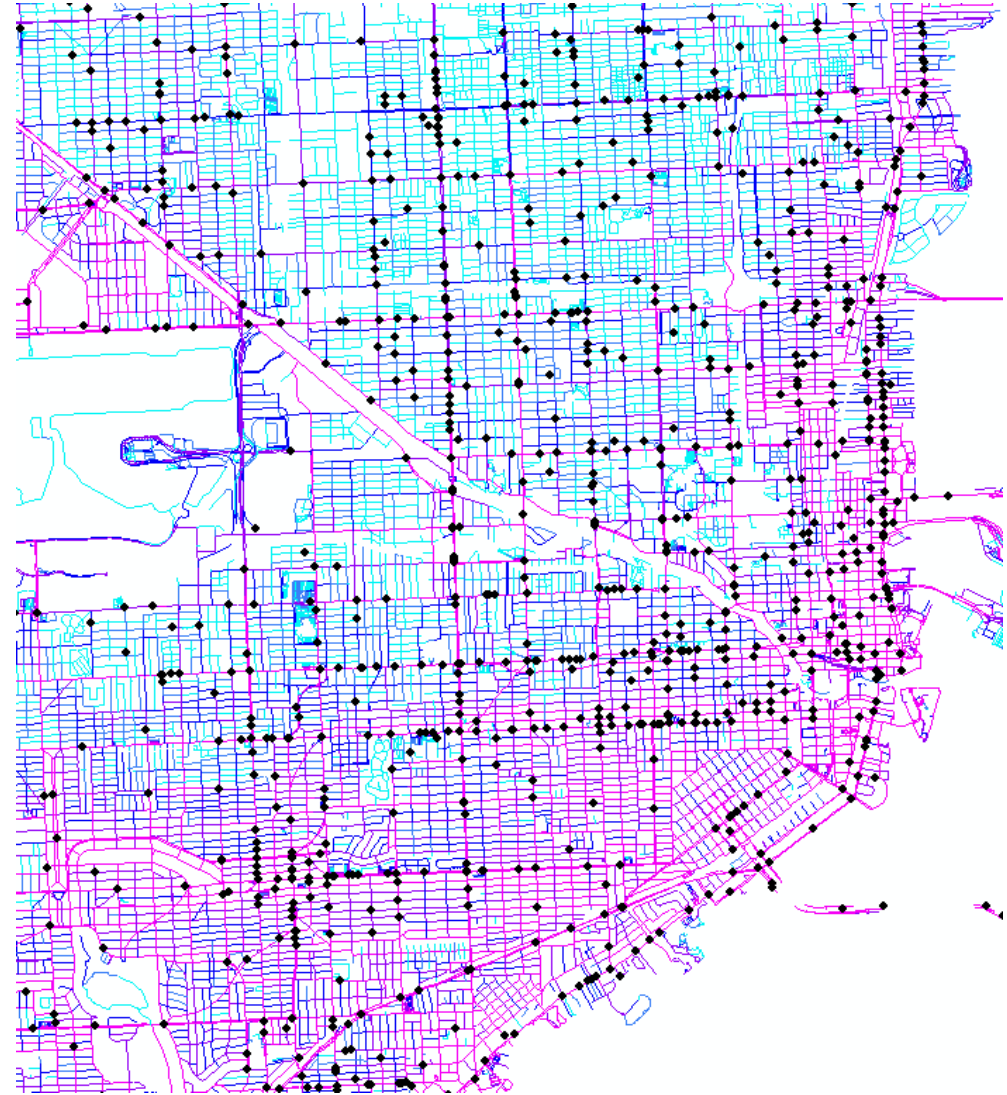# COMMUTE FLAG

BIKE VOLUME + CRASHES

Early stages of understanding

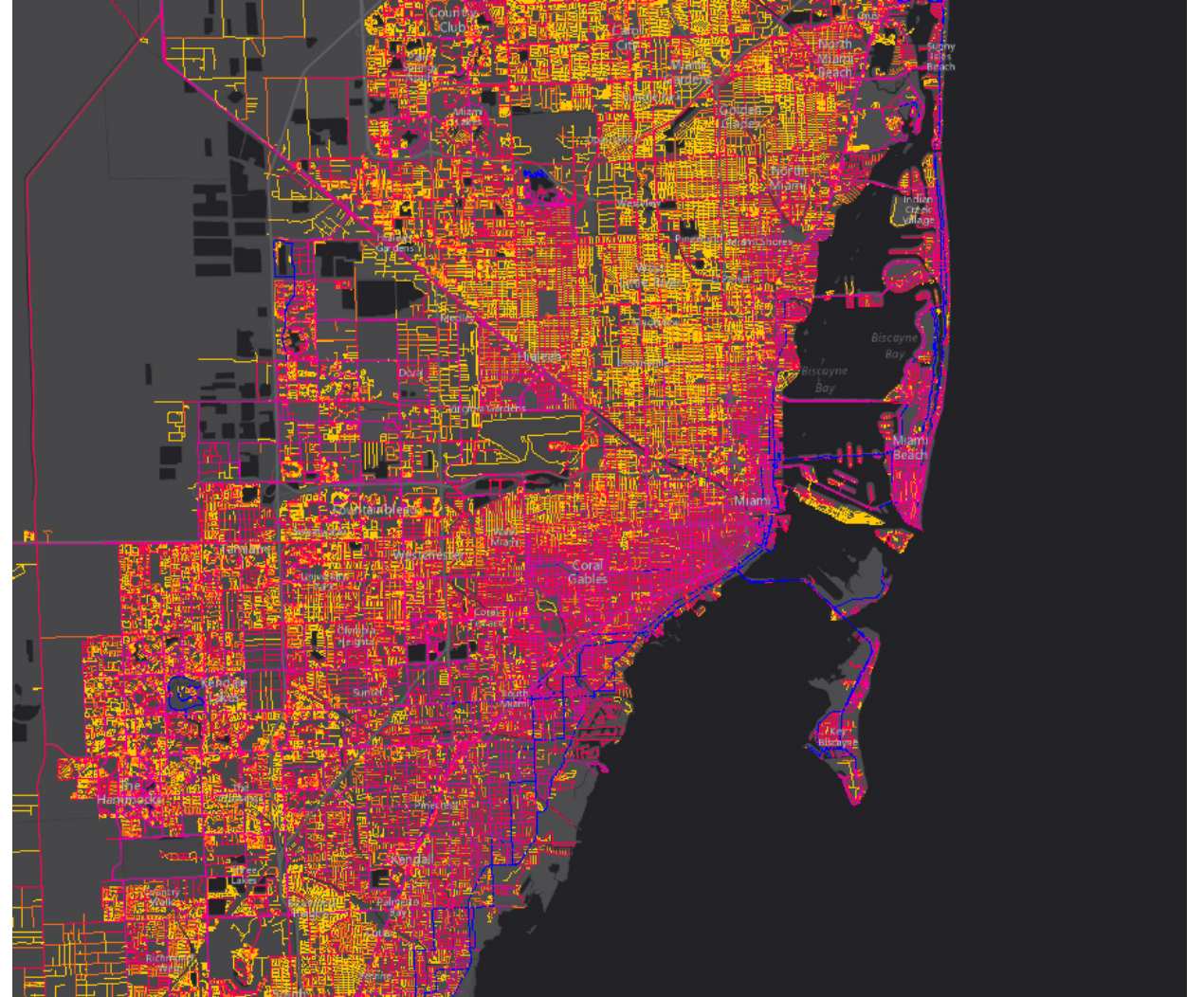More work / research needed

SAMPLE DATA

Dade County – Ride - 2014
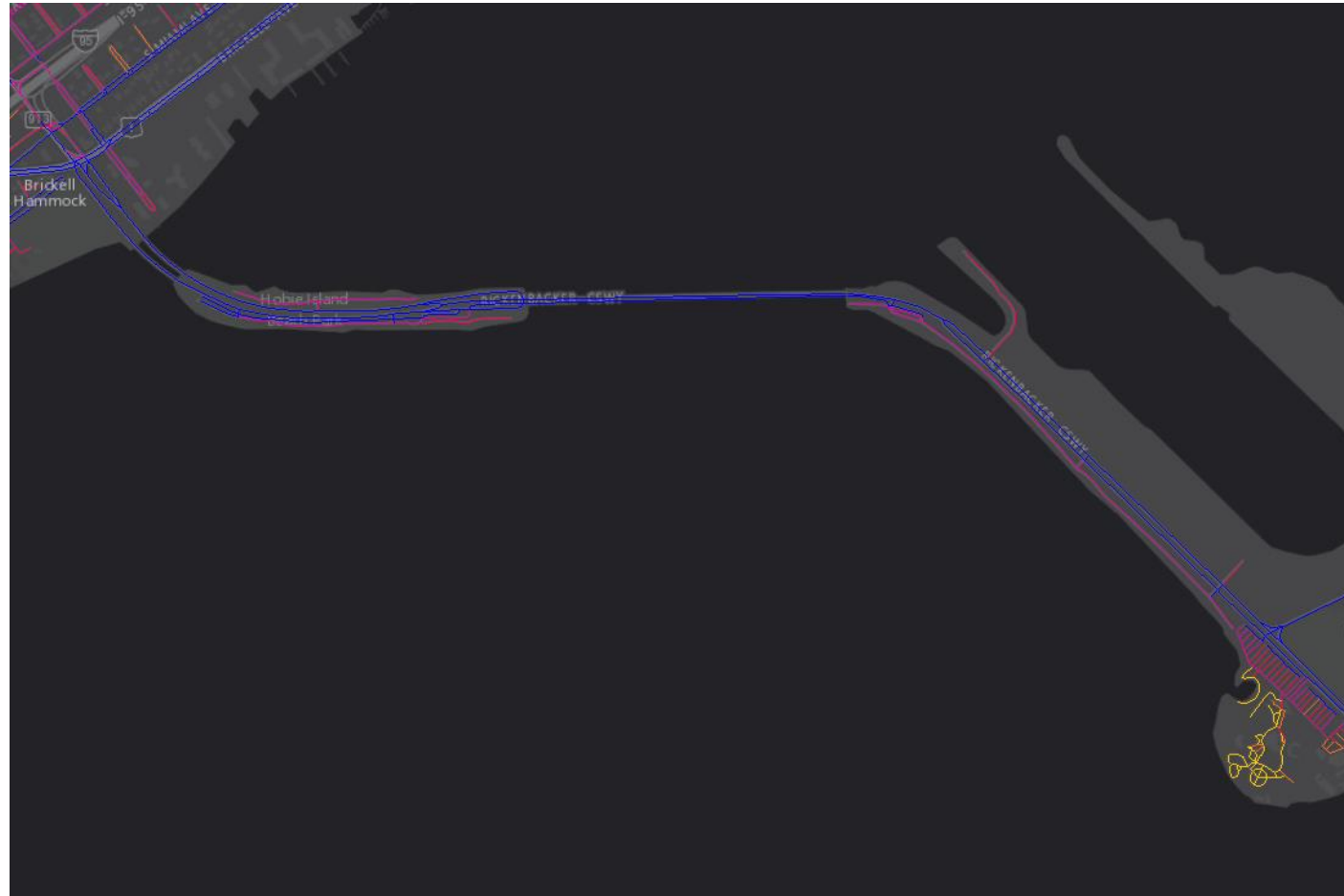
- Trips
  - 29,866,103 total trips on 166,000 segments
    - Average 179 trips / segment
    - Max 24,129 trips (Westbound Rickenbacker Causeway)
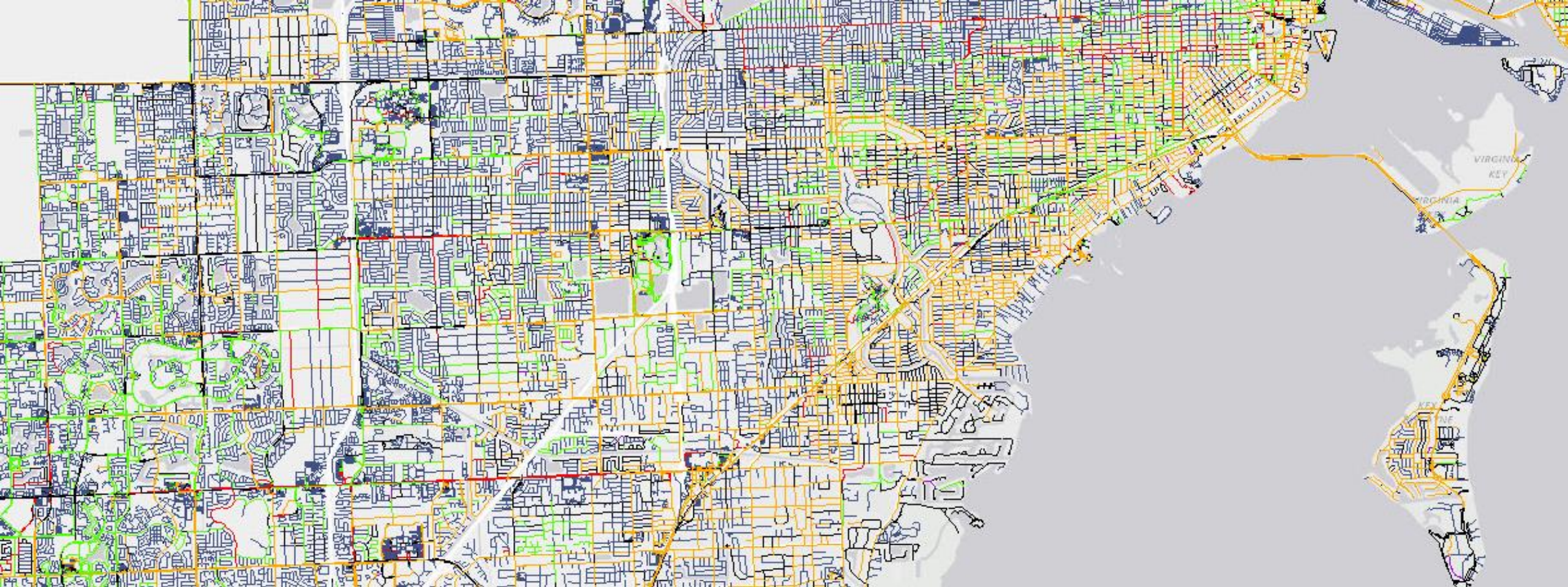- Users
  - Average 44 users / segment
  - Max 2,409 users (Westbound Rickenbacker Causeway)

RICKENBACKER CAUSEWAY

USE BY TIME OF DAY

AM Peak (5 AM to 10 AM)
PM Peak (3 PM to 8 PM)
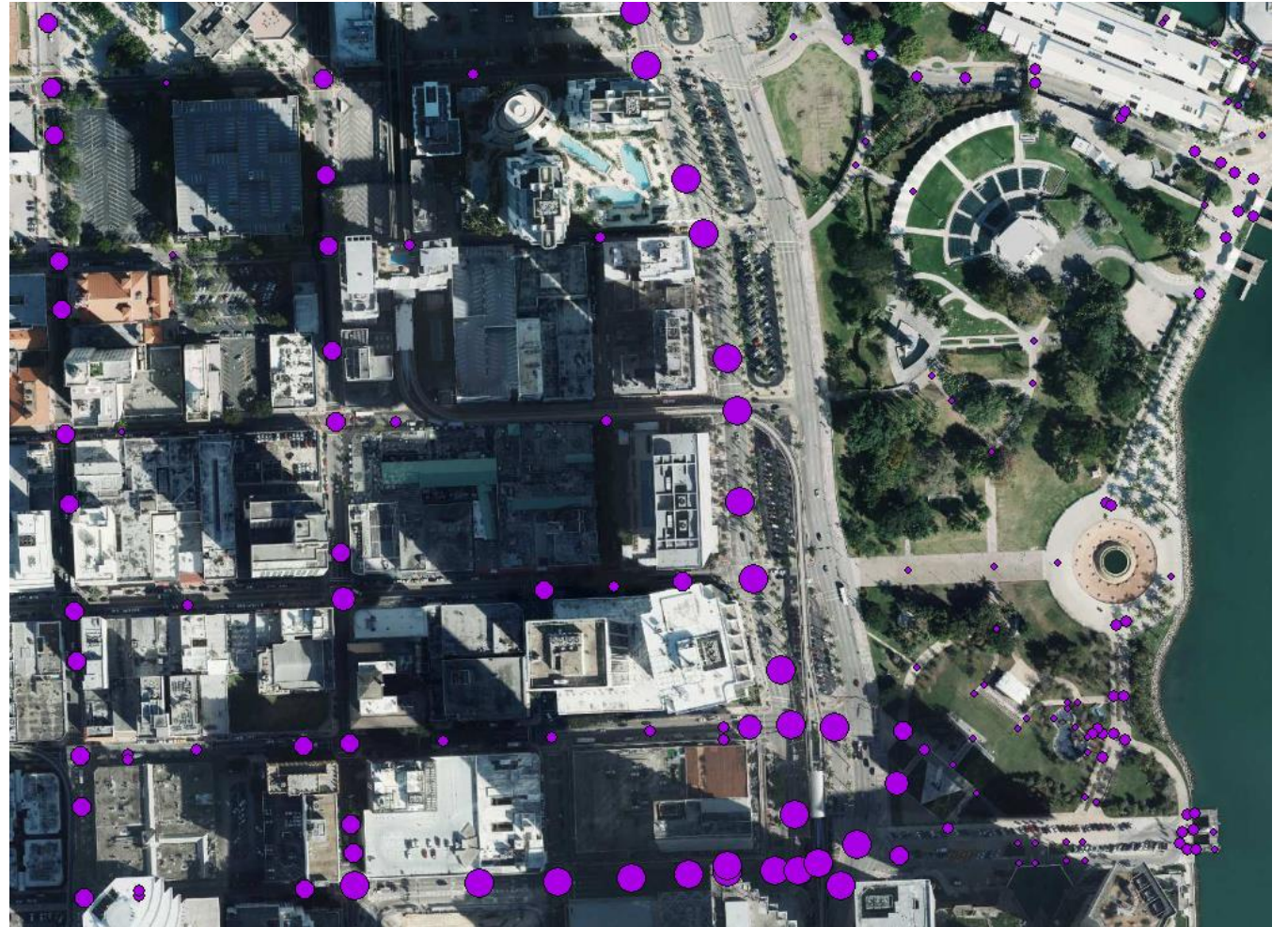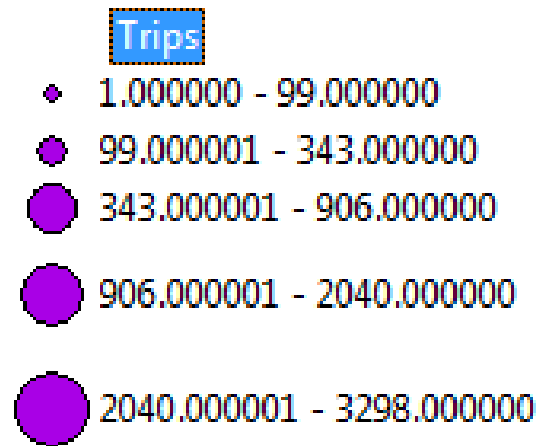Late Night – (8 PM to Midnight)

INTERSECTION DATA

Counts

Time Spent at Intersection

Trips

- 1.000000 - 99.000000
- 99.000001 - 343.000000
- 343.000001 - 906.000000
- 906.000001 - 2040.000000
- 2040.000001 - 3298.000000

ORIGIN / DESTINATION DATA

Morning Commute Trips to downtown Miami

Evening Commute Trips from downtown Miami

Data Characteristics:

Census Block Group

Record per trip

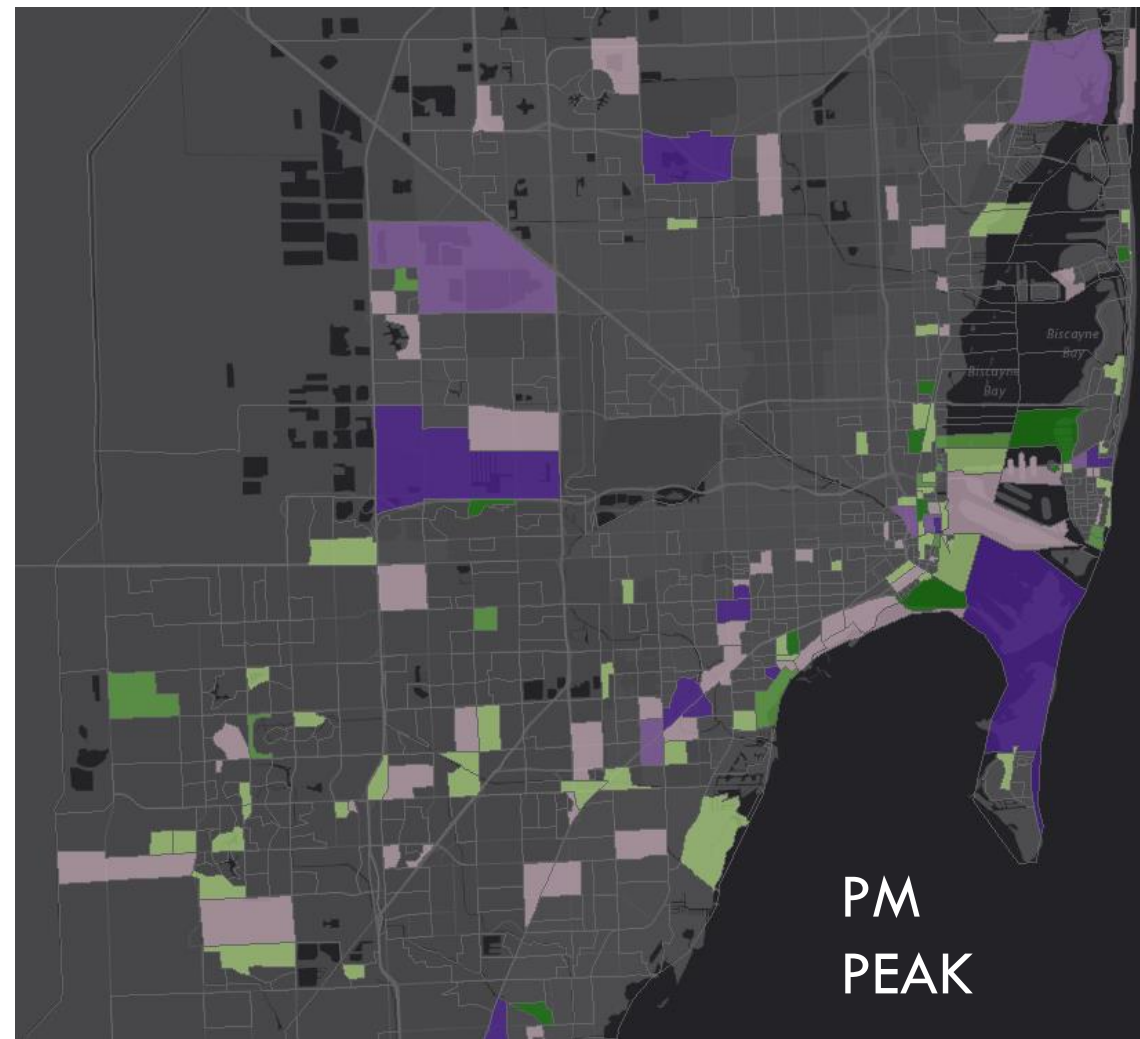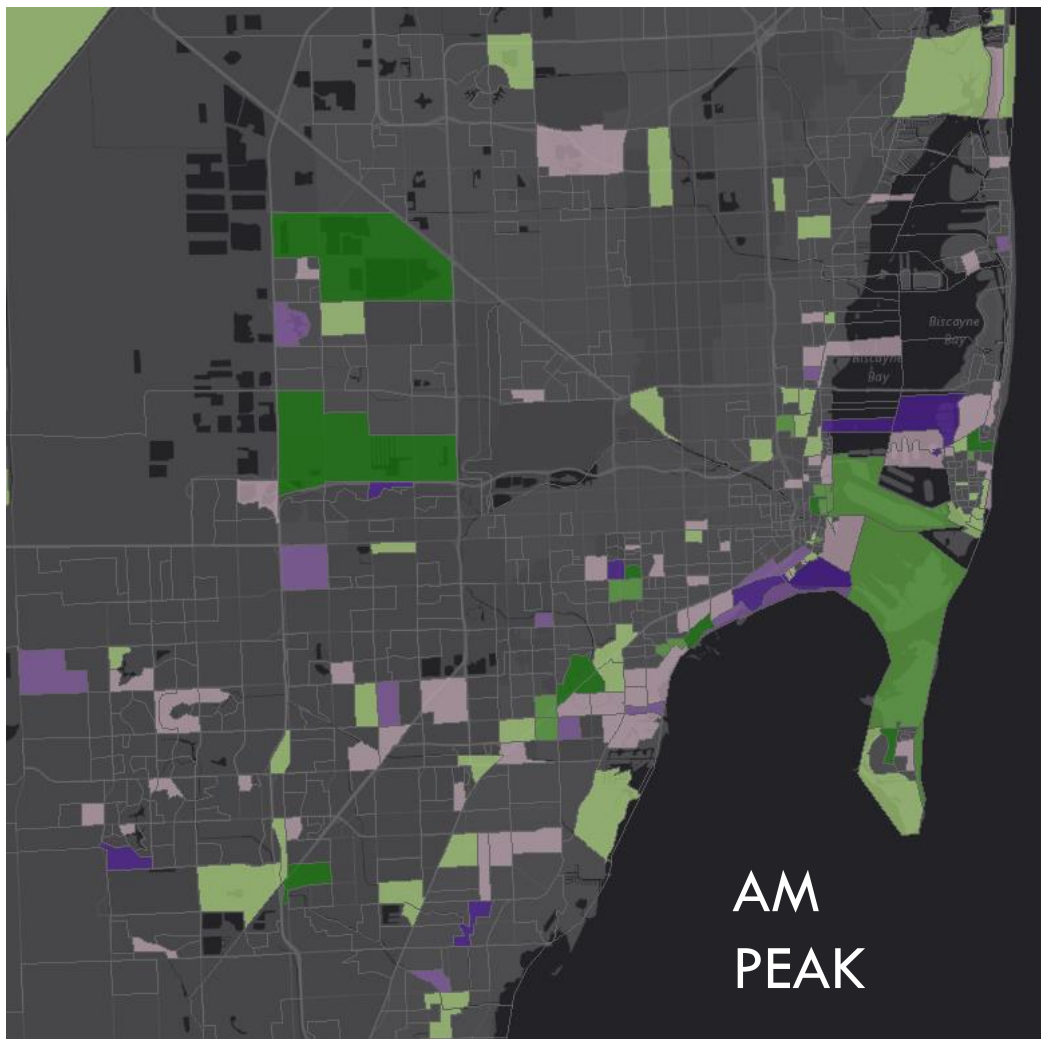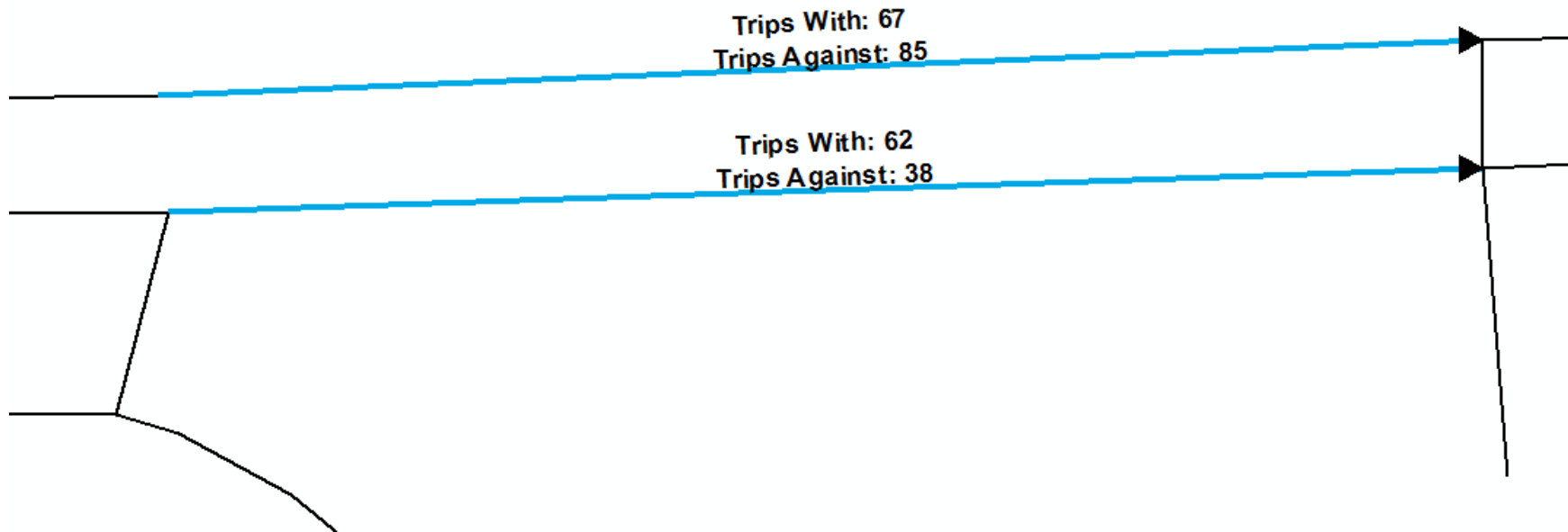Origin Polygon

Destination Polygon

Polygon Path

ORIGIN / DESTINATION DATA

Negative Flow Positive Flow

AM PEAK

PM PEAK

DIGITIZED DIRECTION VS. TRAVEL DIRECTION

Trips With: 67
Trips Against: 85

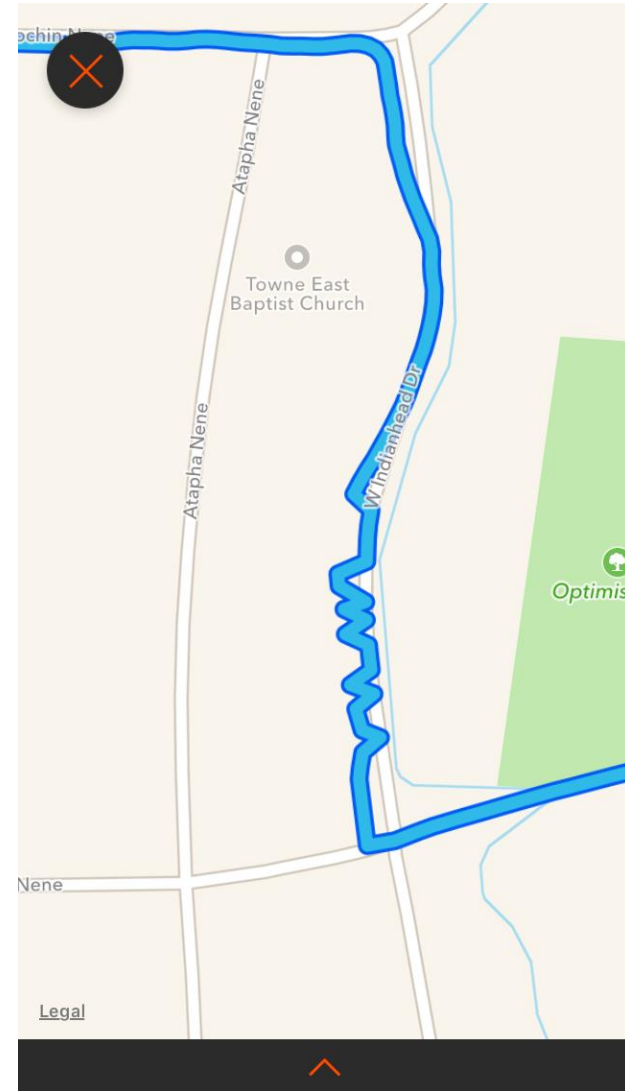Trips With: 62
Trips Against: 38

CELL SIGNAL QUALITY

Uses cell towers, not GPS

Location accuracy is not exact

Trees, buildings and hills can impact quality

USE CASES

Measuring relative bike volume

Estimating actual bike trips
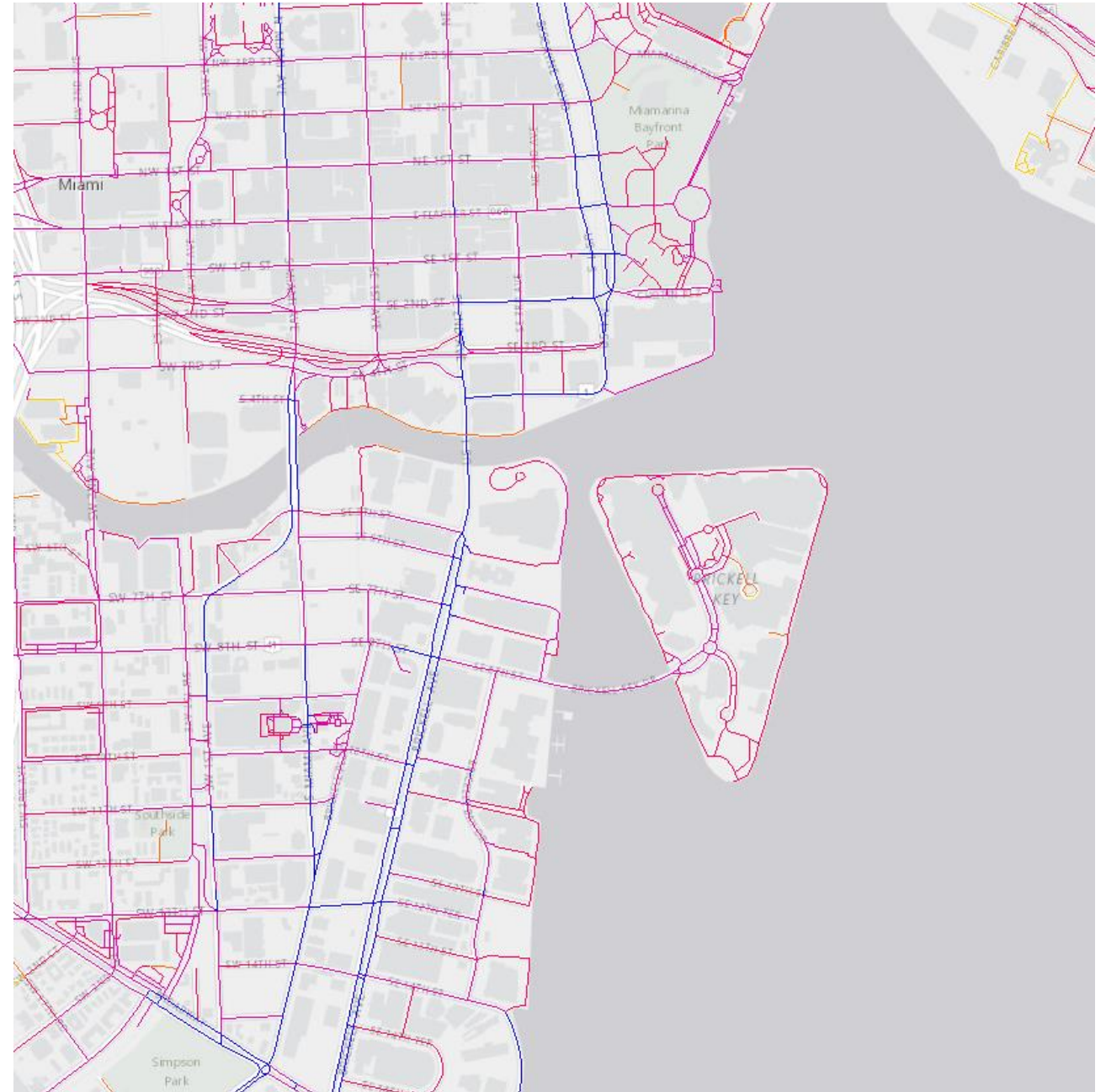- Data needs
- Limitations

Route choice

Route characteristics

Safety Analysis

TOTAL ACTIVITY COUNT

Fewer Trips
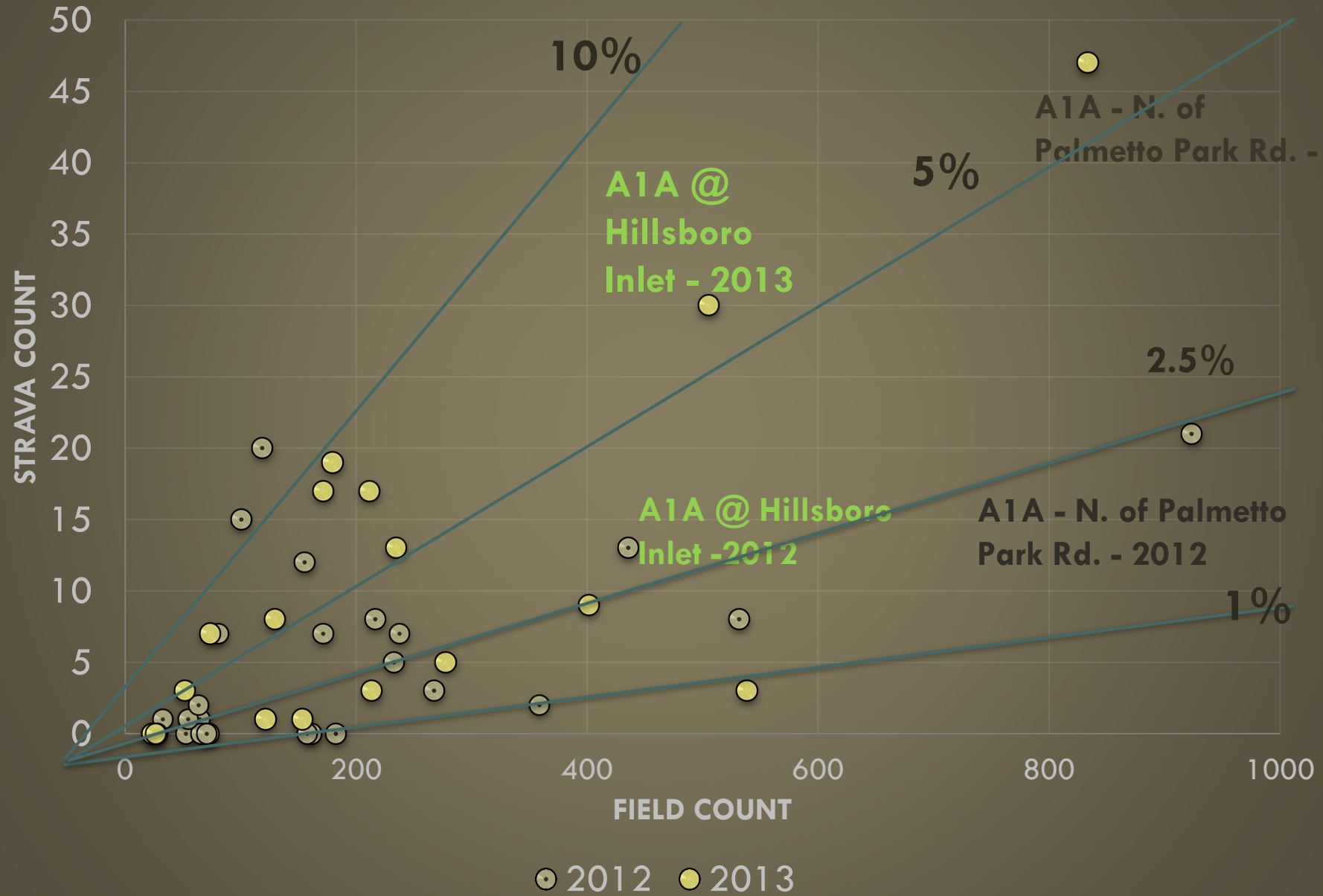
More Trips

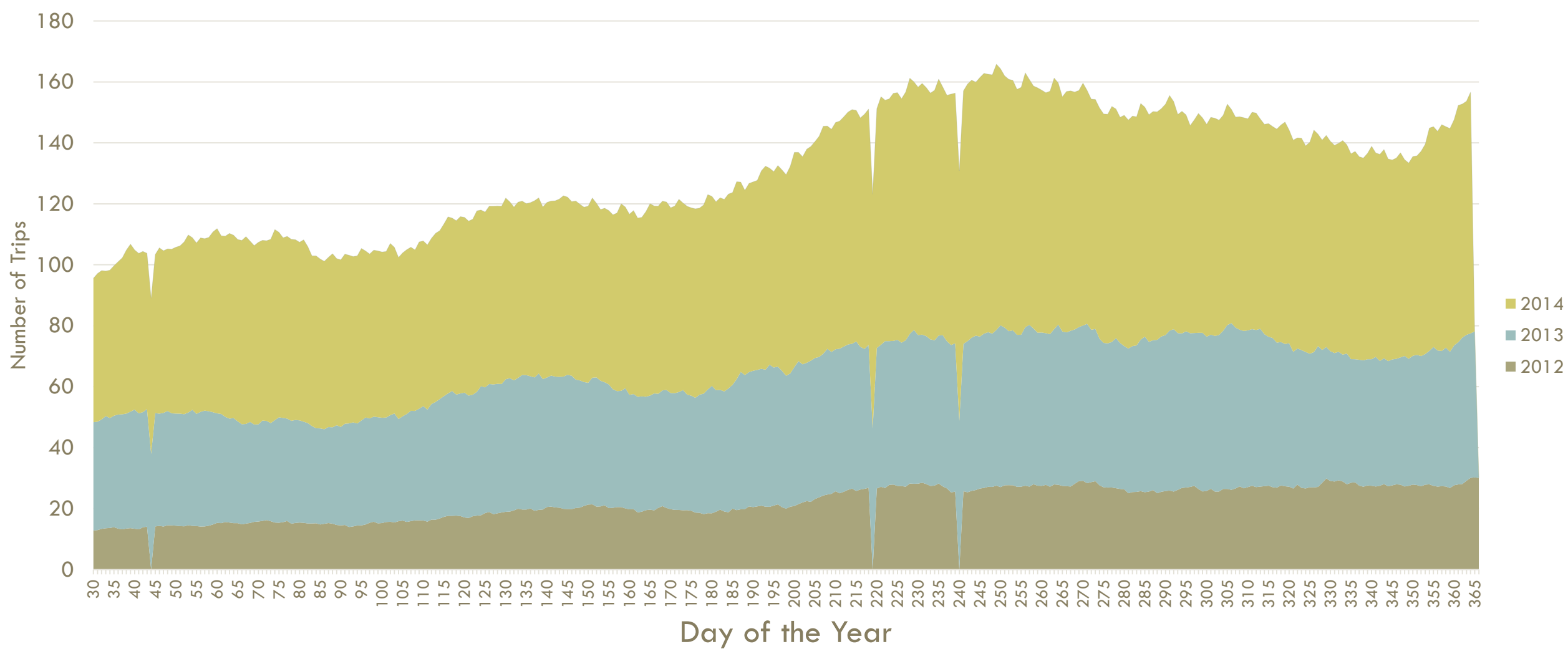# ESTIMATING ACTUAL BIKE TRIPS

Data Needs
- Field Count
- Time Period
  - Time Scale
- Count Locations

Limitations
- Market growth
- Extrapolation
- Small sample size

Strava Bike Trips and Observed Bike Trips - District 4

STRAVA GROWTH

Counts for Westbound Rickenbacker Causeway

~2.2 X growth from 2012 to 2013

~1.5 X growth from 2013 to 2014

DATA CLEANING AND LIMITATIONS

Cleaning

- Removed Trips on Limited Access Facilities
- Run Commutes

Limitations

- User base
- Cell signal quality

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WHAT QUESTIONS DO YOU HAVE?